

Serial No. 09/874,801

Part 5 -- Remarks

This Amendment and Response is responsive to the office action mailed September 3, 2002. In that office action, the following issues were raised:

a restriction requirement was made;

the drawings were objected to under 37 CFR 1.83(a);

claims 1, 4-6, 14, 15, 17, 18, 24, 25 and 27 were rejected under 35 USC 102(b) as being anticipated by *Nemeth* (US 4,242,390);

claims 24, 25 and 27 were rejected under 35 USC 102(b) as being anticipated by *JP 7-268970*;

claims 24, 25 and 27 were rejected under 35 USC 102(e) as being anticipated by *Padmanabhan* (US 6,179,942);

claims 1-7, 14-18 and 24-27 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Mauran* (US 865,651) in view of *Abendroth et al.* (US 4,910,936) and *Nemeth*; and

claims 2 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Nemeth* or *JP 7-268970* or *Padmanabhan* in view of *Abendroth et al.*

In view of the above amendments and these remarks, reconsideration of the above noted rejections is respectfully requested. Claims 1-7, 14-18 and 24-27 and new claims 28-39 are pending in the application.

Election/Restriction:

Applicant affirms, without traverse, election of Group II, shown in Figs. 4-7. Additionally, Applicant respectfully submits that the embodiments shown in added Figs. 8-11 fall within Group II, since these embodiments call for the moisture and condensation barrier 236 (Figs. 4-11) to be coated onto the wood boards 244 (Figs. 7, 9 and 11) for the subfloor 238 (Figs. 4-6, 8 and 10). (See also the amended paragraph on page 10 at lines 4-18.) Claims 1-7, 14-18 and 24-27 and new claims 28-40 read on Group II, as shown in Figs. 4-11.

Serial No. 09/874,801

Objections to the Drawings:

Applicant respectfully traverses the objection to the drawings under 37 CFR 1.83(a), in light of the amendments to the paragraph in the Specification on page 10 at lines 4-18 and the addition of Figs. 8-11. The added Figs. 8-11 do not add new matter since the amended paragraph already originally described the matter shown in the added Figs. 8-11. In particular, Figs. 8 and 9 show the moisture and condensation barrier 236 coated onto the top side 252 of the wood boards 244 when installed in the wood subfloor 238. This feature is described in the original unamended paragraph on page 10 at lines 9-10. Additionally, Figs. 10 and 11 show the moisture and condensation barrier 236 covering the entire surfaces of the wood boards 244 in the wood subfloor 238. This feature is described in the original unamended paragraph on page 10 at lines 4-6. Additionally, the amendments to the paragraph primarily involve references to the Figs. in which the described matter is shown.

Rejections under Section 102(b) and (e):

Claims 1, 4-6, 14, 15, 17, 18, 24, 25 and 27 are rejected under 35 USC 102(b) as being anticipated by *Nemeth*. Each of the independent claims 1, 14 and 24 recites a "moisture and condensation barrier" of a "liquid rubberized coating material," such as, for example, multiple blocks of rubber polymers such as "Dynatron Dyna-Pro Rubberized Undercoat," or "MarHyde Paintable Rubber Undercoating," both by BONDO Corporation (Specification; p. 5, lines 9-13; p. 8, lines 10-16; and p. 9, lines 19-24). For example, independent claim 1 recites a flooring system including a "moisture and condensation barrier layer comprising a liquid rubberized coating material" (lines 6-7). Additionally, independent claim 14 recites a method including "coating a plurality of wood boards with a moisture and condensation barrier material having a liquid rubberized coating material" (lines 3-4). Also, independent claim 24 recites a building construction material including "a moisture and condensation barrier comprising a liquid rubberized coating material coated onto the wood board" (lines 3-4). Applicant respectfully submits that *Nemeth* does not teach these limitations.

Serial No. 09/874,801

Nemeth shows a moisture barrier consisting of water-repellent waxes or thermoplastic materials such as ethylene vinyl acetate copolymer and ozocerite wax, or dried varnish such as vinyl chloride, vinyl acetate copolymer, or a thermosetting resin such as polyurethane (*Nemeth*, Column 4, lines 22- 34.). It is well known in the chemical arts that in the generic category of plastics, rubberized materials, such as those disclosed by Applicant, are neither equivalent nor comparable to the waxes, thermoplastic materials and thermosetting resins disclosed by *Nemeth*. The *Nemeth* materials are waxes or plastics which are chemically distinct from the rubberized materials of Applicant. As a result, they have different elastomeric or bonding characteristics and environmental resistive properties. None of the materials identified by *Nemeth* is a rubber polymer material having multiple blocks of rubber polymer, which has strong carbon-to-carbon bonds in the polymer backbone. Such a rubberized material provides a material with characteristics such as higher tensile strength and modulus of elasticity in the materials, and which is very resistant to environmental conditions. Nowhere does *Nemeth* disclose a liquid rubberized coating material or rubber polymer as recited in each of the independent claims 1, 14 and 24. Lacking such disclosure, *Nemeth* does not anticipate claims 1, 4-6, 14, 15, 17, 18, 24, 25 and 27.

Claims 24, 25 and 27 are rejected under 35 USC 102(b) as being anticipated by *JP 7-268970*. Applicant respectfully submits that *JP 7-268970* does not teach the limitation of a "moisture and condensation barrier" of a "liquid rubberized coating material," as described above. *JP 7-268970* shows a moisture preventing coating layer consisting of an amino alkyd resin (*JP 7-268970*, Abstract, Constitution.). The amino alkyd resin material of *JP 7-268970* is neither equivalent nor comparable to the rubberized materials disclosed by Applicant. Amino alkyd resins have a chemical structure that is distinct from that of the recited rubber polymer. Moreover, amino alkyds have been shown to be susceptible to oxidization under outdoor or environmental conditions. As a result, such resins do not retain their elasticity and tend to crack and lose adhesion from substrates such as wood after limited exposure to moisture and/or heating and cooling cycles. None of the materials identified by *JP 7-268970* is a rubberized material forming an elastomeric membrane in the chemical class disclosed and described by Applicant, and nowhere does *JP 7-268970* disclose a liquid rubberized coating material as recited in independent claim 24. Lacking such disclosure, *JP 7-268970* does not anticipate claims 24, 25 and 27.

Serial No. 09/874,801

Claims 24, 25 and 27 are rejected under 35 USC 102(b) as being anticipated by *Padmanabhan*. Applicant respectfully submits that *Padmanabhan* does not teach the limitation of a "moisture and condensation barrier" of a "liquid rubberized coating material," as described above. *Padmanabhan* shows a moisture proofing layer of fiber reinforced plastic made from glass, carbon or aramid fibers set in a matrix of thermoset and thermoplastic polymers such as vinyl ester, phenolic, polyester, polypropylene and polyamide (*Padmanabhan*, Column 10, lines 28-29, Column 11, lines 5-6, and 12-14). The rubberized polymer materials such as those disclosed by Applicant are neither equivalent nor comparable to the thermoset and thermoplastic polymers disclosed by *Padmanabhan*. Lacking such disclosure, *Padmanabhan* does not anticipate claims 24, 25 and 27.

Rejections under Section 103(a):

Applicant respectfully traverses the rejection of claims 1-7, 14-18 and 24-27 under 35 USC 103(a) as being unpatentable over *Mauran* in view of *Abendroth et al.* and *Nemeth* and the rejection of claims 2 and 26 under 35 U.S.C. 103(a) as being unpatentable over *Nemeth*, JP 7-268970 or *Padmanabhan* in view of *Abendroth et al.* As noted above, each of the independent claims 1, 14 and 24 recites a "moisture and condensation barrier" of a "liquid rubberized coating material." Applicant respectfully submits that neither *Mauran* nor *Abendroth et al.* teaches or suggests such a limitation, as noted by the Office Action on page 6, and that *Nemeth*, JP 7-268970 and *Padmanabhan* do not teach or suggest such a limitation, as explained above. Since none of the cited references teaches or suggests a moisture barrier formed of a liquid rubberized coating material, the proposed combination of *Mauran*, *Abendroth et al.* and *Nemeth* and the proposed combination of *Nemeth*, JP 7-268970 or *Padmanabhan* with *Abendroth et al.* also do not teach or suggest such a limitation.

As explained above, *Nemeth*, JP 7-268970 and *Padmanabhan* disclose the use of various types of plastic or wax materials, not the materials of the claimed invention. The addition of *Mauran* and *Abendroth et al.* does not overcome this deficiency. The rubberized coating in Applicant's claimed invention provides multiple blocks of rubber polymers with strong saturated carbon-to-carbon bonds which again, provide improved tensile strength and elasticity, such that

Serial No. 09/874,801

the coating has improved resistance to environmental degradation. Environmental conditions, such as heat and cold, wet and dry, as well as ozone and UV light, do not reduce the elasticity of the rubberized coating material as applied in the present invention, as compared to the materials taught in the cited references. *Mauran* teaches "a thin bed 5 of asphalt which serves to make the floor completely gas and moisture proof" (col. 2, lines 75-76). Asphalt moisture barriers are like that described in the background of the present application from page 3 at line 30 to page 4 at line 9. In prior attempts to form a moisture barrier, felt tar paper (similar to asphalt) was used, but it was found that "within a year, the flooring system had warped and buckled, due to moisture, which the felt tar paper and the glue layer could not prevent passing from the radiant heating concrete slab to the plywood and the finished hardwood floor" (p. 4, lines 6-9).

Additionally, *Abendroth et al.* teaches using "six mil polyethylene with four inch lap joints covered with a felt membrane" to form a vapor barrier (col. 3, lines 64-65), which is a plastic sheet, rather than a coating material. *Abendroth et al.* also teaches using "two-ply asphalt-saturated felt set in mastic" (col. 3, lines 67-68).

The liquid rubberized coating material recited in the rejected claims has advantages that cannot be realized by wax, plastic, resin or asphalt materials, particularly when used to form a moisture and condensation barrier membrane. Building construction materials, particularly in exposed structure components, may be subject to extreme hot and cold temperatures and extreme wet and dry conditions in many different environments over repeated cycles. The liquid rubberized coating material recited in the rejected claims maintains flexibility, durability, strength, elasticity and adhesion characteristics under such conditions, whereas, the wax, plastic, resin and asphalt materials described in the cited references degrade under such conditions.

Additionally, wood naturally has a very rough and porous surface, to which it is very difficult to make materials adhere. Paint, for example, will dry, crack and flake off of wood, particularly when subject to yearly weather cycles and environment conditions. It has been found, however, that the liquid rubberized coating material adheres well to the wood on which it is coated to form a solid and elastomeric membrane that maintains flexibility and durability under a very wide range of conditions. Thus, the moisture barrier formed from the liquid rubberized coating material of the claimed invention is useful in a wide range of environmental

Serial No. 09/874,801

conditions. The wax, plastic, resin and asphalt materials, on the other hand, are not rubberized coatings that form elastomeric membranes. Also, while potentially adequate to form an initial moisture barrier under one set of conditions, such materials fail to maintain performance over time and under a wide range of environmental conditions. When subject to unintended environmental conditions, the wax, plastic, resin and asphalt materials wear out, lose strength, become brittle, begin to separate and peel off of their substrates and are no longer moisture barriers. The advantages of the claimed liquid rubberized coating material in a wide range of environmental conditions are not anticipated by or obvious in view of the types of materials disclosed by the cited references.

Applicant respectfully submits that claims 1-7, 14-18 and 24-27 are not anticipated by, are not obvious from, and are patentable over *Mauran* in view of *Abendroth et al.* and *Nemeth*. Similarly, Applicant respectfully submits that claims 2 and 26 are not anticipated by, are not obvious from, and are patentable over *Nemeth*, *JP 7-268970* and *Padmanabhan* in view of *Abendroth et al.*

New Claims:

Each of the new claims 28-40 includes a limitation for "a moisture barrier comprising a liquid rubberized coating material" or an "elastomeric membrane," "coated onto the wood board." See new independent claims 28, 37 and 40. Applicant respectfully submits, therefore, that the new claims 28-40 are not anticipated by, are not obvious from, and are patentable over the cited references, since none of the cited references anticipates or suggests the claimed type of material in the claimed application. Further, Applicant respectfully submits that the new claims 28-40 do not introduce new matter.

For the reasons specifically discussed above, and others, it is believed that pending claims 1-7, 14-18, 24-27 and 28-40 define patentable subject matter. Reconsideration of the previous rejections as they might apply to the pending claims is therefore respectfully requested.

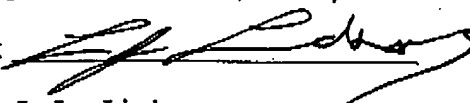
Serial No. 09/874,801

The Examiner is requested to telephone the undersigned to resolve any remaining issues that inhibit the immediate allowance of the application.

Respectfully submitted,

Date: 12/3/02

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